Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

(1) # EU-TYPE-EXAMINATION CERTIFICATE
(Translation)

(2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

PTB 20 ATEX 2003 X **Issue: 00**

(4) Product: LEVEL TRANSMITTER type series LT8139(*).AC****HXKM***

(5) Manufacturer: Bürkert Werke GmbH

(6) Address: Christian Bürkert Straße 13-17, 74653 Ingelfingen, Germany

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 20-20090.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018, EN 60079-11:2012, EN 60079-26:2015

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

II 1G, 1/2G, 2G Ex ia IIC T6...T1 Ga, Ga/Gb, Gb

Konformitätsbewertungsstelle, Sektor Explosionsschutz Braunschweig, 29. Juli 2020
On behalf of PTB:

Dr.-Ing. F. Lienesch
Direktor und Professor

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 24

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In case of dispute, the German text shall prevail.

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(13) # SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 20 ATEX 2003 X, Issue: 00**

(15) Description of Product

The LEVEL TRANSMITTER type series LT8139(*).AC****HXKM*** are used for level measurement in potentially explosive atmospheres requiring category-1 or category-1/2 or category-2 equipment. The enclosure may be optionally fitted with the control and display module AB-MODUL-BUERKERT resp. AB-MODUL-B1 (TÜV 19 ATEX 250180 U) for parameterization or visualization.

The LEVEL TRANSMITTER consists of an electronic housing, the corresponding analyzing electronic system, the electronics module and the communication module, the process connectors and the sensor as well as additional antenna variants.

Type key:

LT8139(*).	*	*	*	*	*	H	X	K	M	*	*	*
	a	b				g	h	i	j			

ab: area of validity.
AC = ATEX II 1G, 1/2G, 2G Ex ia IIC T6...T1 Ga, Ga/Gb, Gb

The full type code can be found in the safety instructions.

Category 1-equipment

The LEVEL TRANSMITTER are installed in potentially explosive atmospheres requiring category 1-equipment.

Category 1/2-equipment

The electronic housing is installed in potentially explosive atmospheres requiring category 2-equipment. The process connectors are installed in the partition separating wall requiring category -1 or -2 equipment. The sensor is installed in the potentially explosive atmosphere for category-1 equipment.

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Category 2-equipment

The LEVEL TRANSMITTER are installed in potentially explosive atmospheres requiring category-2 equipment.

For the relationship between the temperature class, the maximum permissible temperature at the sensor and the maximum permissible ambient temperature for the electronic system, reference is made as follows:

LEVEL TRANSMITTER type series LT8139(*).AC****HXKM***:
For the relationship between the temperature class, the maximum permissible temperature at the sensor and the maximum permissible ambient temperature for the different type series LT8139 must be observed from the safety instruction document no. 62651, clause 11.

Category 1-Equipment

For applications requiring category-1 equipment, the media process pressure has to be between 80 kPa and 110 kPa (0,8 bar and 1,1 bar).
For the operating conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer. For further information refer to the safety instruction document.

Category 1/2-equipment

The process pressure of the media for use with required category 1/2-equipment must be in the range of 80 kPa and 110 kPa (0,8 bar and 1,1 bar).
When the level measuring devices are operated with higher temperatures than indicated in the safety instructions, it shall be guaranteed by suitable measures that no ignition hazard is caused by hot surfaces. In this case the maximum permissible temperature at the electronics / the housing shall not exceed the respective values provided in the safety instructions. In the process it shall be considered that the measuring sensor (even in case of failure) does not show any self-heating and that the operator is responsible for the safe operation of the plant regarding the pressures / temperatures of the materials used.
For operating conditions without explosive mixtures, the manufacturer indications are applicable and must be considered. For further information refer to the safety instruction document.

Category 2-equipment

The maximum permissible temperature at the electronics / the housing shall not exceed the respective values provided in the safety instructions.

For operating conditions without explosive mixtures, the manufacturer indications are applicable and must be considered. For further information refer to the safety instruction document.

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Electrical data:

Supply- and signal circuit: (Terminals 1 [+], 2 [-] in electronic compartment of the single chamber housing or terminals 1 [+], 2 [-] in the connection compartment of the double chamber housing)	In type of protection Intrinsic Safety Ex ia IIC For connection to a certified, intrinsically safe circuit with linear characteristics. Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW The effective internal capacity C_i is negligibly small The effective internal inductance is L_i = 10µH.
Display and adjustment circuit: Spring contacts in electronic compartment or connection compartment	In type of protection Intrinsic Safety Ex ia IIC. Only for connection to the corresponding display and adjustment module AB-MODUL-BUERKERT resp. AB-MODUL-B1 (TÜV 19 ATEX 250180 U).

The metal elements of the LEVEL TRANSMITTER LT8139 are electrically connected to the earth terminals.

The intrinsically safe signal and supply circuit is safely electrically isolated from elements that may be earthed

(16) Test Report PTB Ex 20-20090

(17) Specific conditions of use

1) If used as a category-1 equipment the LEVEL TRANSMITTER type series LT8139(*).AC****HXKM*** which include the material aluminum/titanium, shall be installed in such a way that sparking as a result of impact or friction between aluminum/titanium and steel (with the exception of stainless steel if the presence of rust particles can be excluded) is excluded.
2) The level measuring devices with plastic enclosure, with metal enclosure with inspection window or none grounded metallic parts as well as components of the antennas out of plastic include surfaces that can become charged electrostatically (note warning label and the safety instructions No.: 62651).
3) When used as a category-1 or categorie-1/2 equipment, the LEVEL TRANSMITTER shall be connected to the equipotential bonding conductor (contact resistance ≤ 1MΩ) (e.g. using the earth terminal) in order to prevent metal elements from being charged electrostatically.
4) In applications requiring category 1 or category 1/2-equipment, all parts of the I LEVEL TRANSMITTER that get in contact with media, shall only be used in such media against which the materials are sufficiently resistant.

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5) With the LEVEL TRANSMITTER in the version with rinsing connection it is to be made certain that using the LEVEL TRANSMITTER as an equipment of category 1/2 the degree of protection IP 67 at the connection to the reflux valve is guaranteed. After removing the reflux valve or the rinsing system at the reflux valve, the opening is to be locked with a suitable plug in such a way, that the degree of protection IP 67 is kept.

6) The LEVEL TRANSMITTER in the version with swivelling holder used as an category 1/2 equipment shall be installed in such a way, that the degree of protection IP 67 is kept after alignment of the antenna by means of the swivelling holder and after fastening the screw connection of the clamp flange.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, July 29, 2020

Dr.-Ing. F. Lienesch
Direktor und Professor

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